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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,697	11/28/2000	Katsuya Irie	1466.1017	4563

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EXAMINER

HARPER, HOLLY R

ART UNIT PAPER NUMBER

2879

DATE MAILED: 02/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

K.D.

**Office Action Summary**

Application No.

09/722,697

Applicant(s)

IRIE ET AL.

Examiner

Holly R. Harper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3, 7 and 9-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7 and 9-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

The Amendment to the specification, filed on 11/21/03, has been entered and acknowledged by the Examiner.

Cancellation of claims 4-6 and 8 has been entered.

Claims 9-11 have been added.

Claims 1 and 7 have been amended.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1, 2, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushifusa et al. (USPN 5,818,168) hereinafter "Ushifusa" in view of Teng et al (USPN 6,229,252) hereinafter "Teng."

In regard to claims 1 and 2, the Ushifusa reference discloses a plasma display device that has blue, green, and red phosphors (a type of fluorescent) each in their own discharge cell (Column 13, Lines 55-63). Three different color phosphors are used to create a color display device rather than a chromatic one. The Ushifusa reference does not disclose the use of a filter.

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The Teng reference teaches a filter that increases the color temperature (Column 11 and 12, Table 2) of the mixed color. The Teng reference also teaches that the filter changes the white color coordinates to a more negative location by disclosing the coordinates without and with the filter (Table 2). The filter can be free standing in front of a plasma display device or adherable to the device surface (Column 3, Lines 19-23). The filter enhances the contrast and color of images from a color display monitor without significantly sacrificing brightness of the image therefrom (Column 3, Lines 4-8). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate a filter on the display device, as taught by Teng, to enhance the contrast and color of images from a color display monitor.

In regard to claim 7, the Teng reference further discloses a filter with an absorption peak falling into the wavelength region of 550 nanometers to 610 nanometers (Column 11, Lines 20-21). The filter substantially increases the transmission of the primary colors from the reflected light of a color display device while substantially absorbing the non-primary colors, and thereby improves the contrast and color of the image for the viewers (Column 4, Lines 31-35).

3. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushifusa et al. (USPN 5,818,168) hereinafter "Ushifusa" in view of Teng et al (USPN 6,229,252) hereinafter "Teng" in further view of Ilcisin et al. (USPN 5,990,619) hereinafter "Ilcisin."

In regard to claim 3, the Teng and Ushifusa references do not disclose the use of uneven structural conditions where the structure conditions are effective areas of the electrodes. The Ilcisin reference teaches the use of nonuniform electrodes in plasma display devices. The nonuniformities include surface nonuniformities, bulk nonuniformities, and geometric nonuniformities (Column 2, Lines 58-62). Nonuniform electrodes have improved quality

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because of reduced firing voltages in one plasma channel region compared to another, reduced sputtering damage, reduced total plasma discharge current, decreased discharge initiation time, and decreased ionized gas decay time (Column 2, Line 66- Column 3, Line 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to create electrodes with surface nonuniformities, as taught by Ilcisin, to enhance the color quality.

In regard to claim 9, the Ushifusa reference discloses a plasma display device that has blue, green, and red phosphors (a type of fluorescent) each in their own discharge cell (Column 13, Lines 55-63). Three different color phosphors are used to create a color display device rather than a chromatic one. The discharge gas contains Neon (Column 10, Lines 18-20). The PDP has

The Ushifusa reference does not disclose the use of a filter. The Teng reference teaches a filter that increases the color temperature (Column 11 and 12, Table 2) of the mixed color. The Teng reference also teaches that the filter changes the white color coordinates to a more negative location by disclosing the coordinates without and with the filter (Table 2). The absorption peak falling into the wavelength region of 550 nanometers to 610 nanometers (Column 11, Lines 20-21). The filter substantially increases the transmission of the primary colors from the reflected light of a color display device while substantially absorbing the non-primary colors, and thereby improves the contrast and color of the image for the viewers (Column 4, Lines 31-35). The filter can be free standing in front of a plasma display device or adherable to the device surface (Column 3, Lines 19-23). The filter enhances the contrast and color of images from a color display monitor without significantly sacrificing brightness of the image therefrom (Column 3, Lines 4-8). Thus, it would have been obvious at the time the invention was made to a person

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having ordinary skills in the art to incorporate a filter on the display device, as taught by Teng, to enhance the contrast and color of images from a color display monitor.

The Ushifusa in view of Teng references do not disclose the use of uneven structural conditions where the structure conditions are effective areas of the electrodes. The Ilcisin reference teaches the use of nonuniform electrodes in plasma display devices. The nonuniformities include surface nonuniformities, bulk nonuniformities, and geometric nonuniformities (Column 2, Lines 58-62). Nonuniform electrodes have improved quality because of reduced firing voltages in one plasma channel region compared to another, reduced sputtering damage, reduced total plasma discharge current, decreased discharge initiation time, and decreased ionized gas decay time (Column 2, Line 66- Column 3, Line 4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to create electrodes with surface nonuniformities, as taught by Ilcisin, to enhance the color quality.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushifusa et al. (USPN 5,818,168) hereinafter "Ushifusa" in view of Teng et al (USPN 6,229,252) hereinafter "Teng" in further view of Shiiki et al. (USPN 6,411,032) hereinafter "Shiiki."

In regard to claim 10, the Ushifusa reference discloses a plasma display device that has blue, green, and red phosphors (a type of fluorescent) each in their own discharge cell (Column 13, Lines 55-63). Three different color phosphors are used to create a color display device rather than a chromatic one. The discharge gas contains Neon (Column 10, Lines 18-20). The PDP has

The Ushifusa reference does not disclose the use of a filter. The Teng reference teaches a filter that increases the color temperature (Column 11 and 12, Table 2) of the mixed color. The Teng reference also teaches that the filter changes the white color coordinates to a more negative

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location by disclosing the coordinates without and with the filter (Table 2). The absorption peak falling into the wavelength region of 550 nanometers to 610 nanometers (Column 11, Lines 20-21). The filter substantially increases the transmission of the primary colors from the reflected light of a color display device while substantially absorbing the non-primary colors, and thereby improves the contrast and color of the image for the viewers (Column 4, Lines 31-35). The filter can be free standing in front of a plasma display device or adherable to the device surface (Column 3, Lines 19-23). The filter enhances the contrast and color of images from a color display monitor without significantly sacrificing brightness of the image therefrom (Column 3, Lines 4-8). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate a filter on the display device, as taught by Teng, to enhance the contrast and color of images from a color display monitor.

The Teng and Ushifusa references do not disclose the use of discharge cells with varying widths. Shiiki teaches that a plasma display device can be created with varying spaces between the barrier ribs for defining discharge spaces for the red, blue, and green colors. (Column 2, Lines 45-50 and Figure 1) This configuration would allow adjustment of the color temperature of white color by adjusting the luminance balance of red, blue, and green light emissions (Column 3, Lines 3-5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the widths of the discharge cells, as taught by Shiiki, to enhance the color reproducibility.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushifusa et al. (USPN 5,818,168) hereinafter "Ushifusa" in view of Teng et al (USPN 6,229,252) hereinafter "Teng" in further view of Wedding (USPN 5,793,158).

In regard to claim 11, the Ushifusa reference discloses a plasma display device that has blue, green, and red phosphors (a type of fluorescent) each in their own discharge cell (Column 13, Lines 55-63). Three different color phosphors are used to create a color display device rather than a chromatic one. The discharge gas contains Neon (Column 10, Lines 18-20). The PDP has

The Ushifusa reference does not disclose the use of a filter. The Teng reference teaches a filter that increases the color temperature (Column 11 and 12, Table 2) of the mixed color. The Teng reference also teaches that the filter changes the white color coordinates to a more negative location by disclosing the coordinates without and with the filter (Table 2). The absorption peak falling into the wavelength region of 550 nanometers to 610 nanometers (Column 11, Lines 20-21). The filter substantially increases the transmission of the primary colors from the reflected light of a color display device while substantially absorbing the non-primary colors, and thereby improves the contrast and color of the image for the viewers (Column 4, Lines 31-35). The filter can be free standing in front of a plasma display device or adherable to the device surface (Column 3, Lines 19-23). The filter enhances the contrast and color of images from a color display monitor without significantly sacrificing brightness of the image therefrom (Column 3, Lines 4-8). Thus, it would have been obvious at the time the invention was made to a person having ordinary skills in the art to incorporate a filter on the display device, as taught by Teng, to enhance the contrast and color of images from a color display monitor.

The Teng and Ushifusa references do not disclose a plasma display device with varying thickness values of the dielectric layers that cover electrodes for generating gas discharge. Wedding teaches that a plasma display device can be created with a different dielectric thickness over the electrodes. By varying the thickness, adjustments can be made for differences in power



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input and brightness output for each phosphor. (Column 14, Lines 13-21) It would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the dielectric thickness, as taught by Wedding, to increase the color quality of the plasma display device.

### ***Response to Arguments***

6. Applicant's arguments filed 11/21/03 have been fully considered but they are not persuasive.

Regarding the changing of the primary reference in the prior rejection, this was intended. It is believed the rejection of record is correct. The previous rejection was made non-final because of the change in the primary and secondary reference.

Regarding applicants claim that Teng's filter doesn't achieve the same results as the claimed invention, the examiner respectfully disagrees. The filter described by Teng discloses a filter that absorbs light in the 550 to 610 nm range, increases in color temperature, and the color coordinates become more negative with the use of the filter (Table 2). This satisfies all the limitations of the claimed invention.

Regarding applicants claim that Ushifusa does not disclose the use of a filter, the examiner respectfully agrees. However, Teng discloses a filter for use with a PDP (such as Ushifusa) and provides reasons that this would be beneficial to the PDP. For example, the filter will enhance the contrast and color of images from a color display monitor.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Harper whose telephone number is (571) 272-2453. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

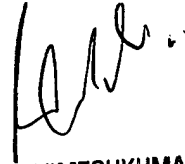
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7382.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Holly Harper  
Patent Examiner  
Art Unit 2879



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